

WHAT IS CLAIMED IS:

1. A method of forming a thick-film wiring on a substrate comprising:

a first step of filling a photosensitive-electroconductive paste into a pattern groove formed on the surface of a light-transmissive plate, the pattern groove corresponding to a desired thick-film wiring pattern;

a second step of irradiating the photosensitive-electroconductive paste filled in the pattern groove with light-rays from the front and back sides of the plate to cause the photosensitive-electroconductive paste to harden until the peripheral surface of the electroconductive paste has a predetermined hardness;

a third step of transferring the photosensitive-electroconductive paste hardened in the plate directly to the substrate or via an intermediate piece to the substrate; and

a fourth step of firing the photosensitive-electroconductive paste, whereby the thick-film wiring is formed on the substrate.

2. A method of forming a thick-film wiring according to Claim 1, wherein the plate is made of a transparent polyethyleneterephthalate film.

3. A method of forming a thick-film wiring according to Claim 2, wherein in the second step, light having a wavelength of at least about 350 nm irradiates the photosensitive-electroconductive paste from the front and back sides of the plate.

4. A method of forming a thick-film wiring according to Claim 1, wherein the pattern groove of the plate is processed with a laser beam having a wavelength shorter than the wavelength of the light used in the second step, and the plate has a transmittance spectrum which is lower than that for the laser beam and which is higher than the light used in the second step.

5. A method of forming a thick-film wiring according to Claim 1, wherein the intermediate piece is made of a light-transmissive material;

the second step includes irradiating light from the back side of the plate and from the back side of the intermediate piece while the intermediate piece and the plate overlap each other; and

the third step includes transferring the photosensitive-electroconductive paste hardened in the plate to the intermediate piece, and then, transferring the photosensitive-electroconductive paste from the intermediate piece to the substrate.

6. A method of forming a thick-film wiring according to Claim 1, wherein, in the second step, the quantity of light irradiated from the front side of the plate is larger than the quantity of light irradiated from the back side of the plate.

7. A method of forming a thick-film wiring according to Claim 1, wherein the plate is a flexible plate made of resin, and the

resin plate is bonded to a support which is light-transmissive and non-flexible.

8. A method of forming a thick-film wiring according to Claim 1, wherein a release agent is coated on an inner surface of the pattern groove of the plate.

9. A method of producing a laminated electronic component comprising the steps of:

preparing a substrate made of a green sheet;

transferring photosensitive-electroconductive paste onto the substrate directly or via an intermediate piece;

repeating the steps of preparing and transferring to form a laminate of plural substrates having the photosensitive-electroconductive paste transferred thereto; and

firing the laminate; wherein

the photosensitive-electroconductive paste is formed by the method of forming a thick-film wiring defined in Claim 1.

10. A method of forming a thick-film wiring according to Claim 9, wherein the pattern groove of the plate is processed with a laser beam having a wavelength shorter than the wavelength of the light used in the second step; and

the plate has a transmittance spectrum which is lower than the laser beam and which is higher than the light used in the second step.

11. A method of forming a thick-film wiring according to Claim 9, wherein the intermediate piece is made of a light-transmitting material;

the second step includes irradiating light from the back side of the plate and from the back side of the intermediate piece while the intermediate piece and the plate overlap each other; and

the third step includes transferring the photosensitive-electroconductive paste hardened in the plate to the intermediate piece, and then, transferring the photosensitive-electroconductive paste from the intermediate piece to the substrate.

12. A method of forming a thick-film wiring according to Claim 9, wherein, in the second step, the quantity of light irradiated from the front side of the plate is larger than the quantity of light irradiated from the back side of the plate.

13. A method of forming a thick-film wiring according to Claim 9, wherein the plate is a flexible plate made of resin, and the resin plate is bonded to a support which is light-transmitting and non-flexible.

14. A method of forming a thick-film wiring according to Claim 9, wherein a release agent is coated on an inner surface of the pattern groove of the plate.

15. A method of forming a thick-film wiring according to Claim 1, wherein the plate is an intaglio plate.

16. A method of forming a thick-film wiring according to Claim 1, wherein a surface of the plate is coated with a release agent.

17. A method of forming a thick-film wiring according to Claim 16, wherein the release agent is a fluororesin.

18. A method of forming a thick-film wiring according to Claim 1, wherein a cross-sectional shape of the pattern groove is a trapezoid having side walls with a predetermined tapering-angle.

19. A method of forming a thick-film wiring according to Claim 1, wherein a surface of the substrate is coated with an adhesive.

20. A method of forming a thick-film wiring according to Claim 1, wherein the plate is made of glass.